

CLAIM AMENDMENTS

1. (currently amended) A sample holding card substrate for use with an infrared spectrophotometer or infrared filterometer comprising an infrared light transmitting sample supporting window ~~a spectroscopic analytical instrument, said sample holding card comprising a holder adapted to be placed within the instrument, said sample card comprising a holder adapted to be placed within the instrument, said holder having at least one aperture therein, a sample supporting window mounted to said holder and positioned within said aperture, said sample supporting window comprising a light energy transmitting material formed by one or more of the steps comprising cleaving, fly cutting, chipping, milling, sawing or scaling.~~

2. (currently amended) The sample holding substrate ~~A sample holding card as defined in claim 1 wherein said holder is disposable~~ the infrared light transmitting sample supporting window is mounted in a holder with at least one clear aperture such that the perimeter of the aperture frames all or a centrally located part of said window.

Claims 3-9. (canceled)

10. (currently amended) The sample holding substrate ~~A sample holding card as defined in claim 2~~ 1 wherein said infrared light transmitting sample supporting window is ~~comprised of~~ an alkali halide crystal.

11. (currently amended) The sample holding substrate ~~A sample holding card as defined in claim 10~~ 1 wherein said infrared light transmitting sample supporting window is an alkali halide crystal selected from the group consisting of KBr, NaCl and KCl.

12. (currently amended) The sample holding substrate ~~A sample holding eard~~ as defined in claim 1 wherein said infrared light transmitting sample supporting window is comprised of a silica material.

13. (currently amended) The sample holding substrate ~~A sample holding eard~~ as defined in claim 1 wherein said infrared light transmitting sample supporting window is comprised of a glass composition of germanium, arsenic and selenium.

14. (currently amended) The sample holding substrate ~~A sample holding eard~~ as defined in claim 1 wherein said infrared light transmitting sample supporting window is comprised of a glass composition of germanium, antimony and selenium.

15. (currently amended) The sample holding substrate ~~A sample holding eard~~ as defined in claim 2 further having a an infrared light transmitting cover slide window formed by one or more of the steps comprising cleaving, fly cutting, chipping, milling, sawing or scaling.

16. (currently amended) The sample holding substrate ~~A sample holding eard~~ as defined in claim 15 wherein a spacer is located between said sample ~~support~~ supporting window and said cover slide window to create a predetermined space therebetween.

17. (currently amended) The sample holding substrate ~~A sample holding eard~~ as defined in claim 15 wherein said cover slide window is affixed to said sample ~~support~~ supporting window by a clamping means.

18. (currently amended) A method for the manufacture of a sample holding substrate ~~eard~~ for use in ~~a spectroscopic analytical instrument~~ an infrared spectrophotometer or infrared filterometer, said method comprising the steps of:

- providing a an infrared light transmitting material,

forming a an infrared light transmitting sample supporting window by cleaving, fly cutting, chipping, milling, sawing or scaling material from said infrared light transmitting material to form a sample supporting window that allows the passage of transmits infrared light therethrough;

~~providing a holder having at least one aperture formed therein, and
mounting the sample supporting window to the holder in a position
wherein said sample supporting window extends across said at least one aperture.~~

19. (currently amended) A method for the manufacture of a sample holding substrate ~~card~~ as defined in claim 14 20 wherein said step of providing a holder comprises providing a disposable holder or demountable holder.

20. (currently amended) A method for the manufacture of a sample holding substrate ~~card~~ as defined in claim 18 14 ~~wherein the step of providing a holder~~ comprises ~~providing a disposable holder~~ further including the steps of:

providing a holder having at least one aperture formed therein, and
mounting the sample supporting window to the holder in a position
wherein all or a centrally located part of the window is framed by the perimeter of said
at least one aperture.

Claims 21-27. (canceled)

28. (currently amended) A method for the manufacture of a sample holding substrate ~~card~~ as defined in claim 27 18 further including the step of affixing a cover slide window to the sample holding card to provide a means of sandwiching a sample between said cover slide window and said sample supporting window.

29. (canceled)

30. (currently amended) A method for using a sample holding substrate ~~card in a spectroscopic analytical instrument~~ an infrared spectrophotometer or infrared filterometer, said method comprising the steps of:

providing a an infrared light transmitting material,

providing a an infrared light transmitting sample supporting window formed by cleaving, fly cutting, chipping, milling, sawing or scaling the window from said infrared light transmitting material,

providing a holder having at least one aperture adapted to fit within the ~~analytical instrument~~ spectrophotometer or filterometer,

mounting the sample supporting window to the holder in a ~~to~~ position where all or a centrally located part of the window is framed by the perimeter of the sample supporting window within the at least one aperture,

placing a sample to be analyzed onto the sample supporting window,

inserting the holder into the ~~analytical instrument~~ spectrophotometer or filterometer to ~~pass~~ allow the passage of a beam of infrared light energy ~~radiation~~ through the sample, the window and the aperture.

31. (original) A method as defined in claim 30 wherein said step of providing a holder comprises providing a holder made of a disposable material.

32. (currently amended) A method as defined in claim 31 wherein said step of providing a an infrared light transmitting material comprises providing an alkali halide crystal material.

33. (currently amended) A method as defined in claim 32 wherein said step of providing a an infrared light transmitting material comprises providing a material selected from the group consisting of KBr, NaCl and KCl

34. (canceled)

35. (currently amended) A method as defined in claim 31 wherein said step of providing a holder further comprises the step of affixing a an infrared light transmitting cover slide window to the holder to form a means of sandwiching a sample between said infrared light transmitting cover slide window and said sample supporting window, said cover slide window being formed by one or more of the steps comprising cleaving, fly cutting, chipping, milling, sawing or scaling.

36. (original) A method as defined in claim 35 wherein said step of placing a sample to be analyzed comprises sandwiching the sample between the cover slide window and the sample supporting window.

37. (original) A method as defined in claim 36 wherein said step placing a sample comprises placing a bacterial colony between said cover slide window and said sample supporting window.

38. (canceled)

39. (currently amended) A method for using a an infrared light transmitting sample holding substrate card for use in a ~~spectroscopic analytical instrument~~ an infrared spectrophotometer or infrared filterometer, said method comprising the steps of:

providing a holder having a plurality of apertures adapted to fit within ~~the analytical instrument~~ said infrared spectrophotometer or infrared filterometer,

providing a an infrared light transmitting material,

forming a plurality of infrared light transmitting sample supporting windows by cleaving, fly cutting, chipping, milling, sawing or scaling windows from said light transmitting material,

mounting one of said plurality of said sample supporting windows to the holder ~~to~~ in a position wherein all or a centrally located part of one of said sample supporting windows is framed by the perimeter of ~~within each~~ at least one of the apertures,

placing a sample to be analyzed onto at least one of the sample supporting windows,

inserting the holder having the substrate mounted thereto into ~~the analytical instrument~~ said infrared spectrophotometer or infrared filterometer to ~~pass~~ allow the passage of a beam of infrared light energy through one or more samples ~~the sample, windows and apertures~~ .

40. (currently amended) A method for using a sample holding ~~ear~~ substrate as defined in claim 39 wherein said step of forming a plurality of apertures and sample supporting windows mounted thereon comprises forming the plurality of apertures and sample supporting windows in a carousel configuration.

41. (currently amended) A method for using a sample holding ~~ear~~ substrate as defined in claim 40 wherein said step of placing a sample to be analyzed comprises placing a plurality of samples onto said plurality of sample supporting windows and said ~~analytical instrument~~ infrared spectrophotometer or infrared filterometer passes infrared light energy sequentially through said plurality of samples, said windows and said apertures .

42. (currently amended) A method for using a sample holding ~~ear~~ substrate as defined in claim 40 wherein said step of placing a sample onto at least one of the sample supporting windows comprises placing a bacterial colony onto said at least one sample supporting window.

43. (currently amended) A method for using a sample holding ~~ear~~ substrate as defined in claim 40 wherein said step of inserting the holder having the substrate mounted thereto into ~~analytical instrument~~ the infrared spectrophotometer or infrared filterometer comprises inserting the holder in a horizontal position within the infrared spectrophotometer or infrared filterometer instrument and passing a beam of light energy at least once through the sample, the window and the aperture.

44. (currently amended) A method for using a sample holding ~~card~~ substrate as defined in claim 43 wherein the beam of energy is passed at least ~~twice~~ once through the sample by means of reflection.

45. (currently amended) A method for using a sample holding ~~card~~ substrate for use in a ~~spectroscopic analytical instrument~~ an infrared spectrophotometer or infrared filterometer, said method comprising the steps of:

providing a plurality of holders, each having at least one aperture,

providing a an infrared light transmitting material,

forming a plurality of infrared light transmitting sample supporting windows by cleaving, fly cutting, chipping, milling, sawing or scaling windows from said infrared light transmitting material,

mounting one of said plurality of sample supporting windows to each of said plurality of holders ~~to~~ in a position wherein all or a centrally located part of one of said sample supporting windows is framed by the perimeter of ~~within each of~~ the apertures,

providing a mechanical carousel adapted to fit ~~interfit~~ into the ~~analytical instrument~~ infrared spectrophotometer or infrared filterometer,

mounting said plurality of holders onto the mechanical carousel,

placing a sample to be analyzed onto at least one of the sample supporting windows,

inserting the carousel into the ~~analytical instrument~~ infrared spectrophotometer or infrared filterometer to ~~pass~~ allow the passage of a beam of infrared light energy in a sequential manner through the plurality of ~~samples~~ sample supporting windows, said samples and said apertures.

46. (currently amended) A method for using a sample holding ~~card~~ substrate in a ~~spectroscopic analytical instrument~~ an infrared spectrophotometer or infrared filterometer, said method comprising the steps of:

providing a an infrared light transmitting material,

providing a sample supporting window formed by cleaving, fly cutting, chipping, milling, sawing or scaling the sample supporting window from said infrared light transmitting material,

providing a holder having at least one aperture adapted to fit within the ~~spectroscopic analytical instrument~~ infrared spectrophotometer or infrared filterometer,

mounting the sample supporting window to the holder ~~to~~ in a position wherein all or a centrally located part of the sample supporting window is framed by the perimeter of ~~across the~~ at least one aperture,

inserting the holder into the ~~spectroscopic analytical instrument~~ infrared spectrophotometer or infrared filterometer to ~~pass~~ allow the passage of a beam of infrared light energy through the sample supporting window to obtain one or more a background scans of the ~~light~~ absorbance of the sample supporting window,

placing a sample to be analyzed onto the sample supporting window,

inserting the holder into the analytical instrument to ~~pass~~ allow the passage of a beam of infrared light energy through the sample supporting window and the sample located thereon to obtain a scan of the absorbance of the sample and the sample supporting window ~~within the holder~~, and,

using the one or more background scans to subtract the background absorbance ~~absorbances~~ of the ~~background~~ sample supporting window without the sample from the absorbance ~~absorbances~~ of the sample and the sample supporting window.

47. (currently amended) A method for using a sample holding ~~and~~ substrate in a ~~spectroscopic analytical instrument~~ an infrared spectrophotometer or infrared filterometer, said method comprising the steps of:

providing a an infrared light transmitting material,

providing a an infrared sample supporting window formed by cleaving, fly cutting, chipping, milling, sawing or scaling the sample supporting window from said infrared light transmitting material,

providing a holder having at least one aperture adapted to fit within the ~~spectroscopic analytical instrument~~ infrared spectrophotometer or infrared filterometer,

mounting the sample supporting window to the holder ~~to~~ in a position wherein all or a centrally located part of the sample supporting window is framed by the perimeter of across the at least one aperture,

placing a medium ~~material~~ onto the sample supporting window with which ~~the~~ a sample will be mixed (~~medium~~),

inserting the holder into the ~~analytical—instrument~~ infrared spectrophotometer or infrared filterometer to ~~pass~~ allow the passage of a beam of infrared light energy through the medium and the sample supporting window ~~within the holder~~ to obtain one or more background scans of the sample ~~light~~ supporting window and the medium,

placing a sample to be analyzed mixed with ~~and~~ the medium onto the sample supporting window,

inserting the holder into the ~~spectroscopic-analytical instrument~~ infrared spectrophotometer or infrared filterometer analytical instrument to ~~pass~~ allow the passage of a beam of infrared light energy through the sample supporting window and the medium mixed with the sample ~~within the holder~~, and,

using the one or more background scans to subtract the absorbances of the medium and the sample supporting window from the absorbances of the medium, the sample supporting window and the sample.

48. (currently amended) A method of using a sample holding ~~card~~ substrate as defined in claim 47 wherein said step of placing a medium ~~material~~ onto the sample supporting window with which the sample will be mixed (~~medium~~) comprises placing an alkali halide crystal powder on the sample supporting window.

49. (currently amended) A method of using a sample holding ~~card~~ substrate as defined in claim 48 wherein said step of placing a medium ~~material~~ onto the sample supporting window with which the sample will be mixed (~~medium~~) comprises placing KBr powder on the sample supporting window.

50. (currently amended) A method of using a sample holding ~~ear~~
substrate as defined in claim 47 wherein said step of placing a medium ~~material~~ onto
the sample supporting window with which the sample will be mixed (~~medium~~)
comprises placing mineral oil on the sample supporting window.

51. (currently amended) A method of using a sample holding ~~ear~~
substrate as defined in claim 47 wherein said step of placing a medium ~~material~~ onto
the sample supporting window with which the sample will be mixed (~~medium~~)
comprises placing a solvent on the sample supporting window.

52. (new) A method of using a sample holding substrate as defined in claim
47 wherein said step of placing a medium onto the sample supporting window with
which the sample will be mixed comprises placing a mixture of KBr powder and a
solvent or a mineral oil on the sample supporting window.